

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
3 March 2005 (03.03.2005)

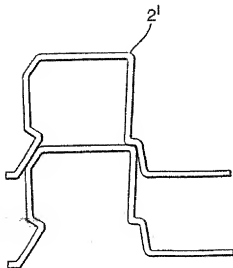
PCT

(10) International Publication Number  
WO 2005/019058 A1

- (51) International Patent Classification<sup>7</sup>: B65D 43/02
- (21) International Application Number:  
PCT/JP2004/008904
- (22) International Filing Date: 9 August 2004 (09.08.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
03077628.0 22 August 2003 (22.08.2003) EP  
04077184.2 29 July 2004 (29.07.2004) JIP
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KI, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

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(54) Title: CONTAINER LID



(57) Abstract: Thermoformed plastic container lid comprising a substantially sheet like lid body having a depending skirt (1) extending around the full periphery of the lid body, the skirt (1) being suitable for engagement with the peripheral portion of a plastic open top container, comprising a lid rim (2) in a position near the periphery of the lid body, which divides the lid body in a centrally located mirror (3) and an outer part (4) on the other side of the lid rim (2), wherein the lid rim (2) comprises one or more bridges (5) connecting the mirror (3) and the outer part (4).

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## Container lid

### Description

#### 5 Field of the invention

The invention relates to a thermoformed plastic container lid comprising a substantially sheet like lid body having a depending skirt (1) extending around the full periphery of the lid body, the skirt (1) being suitable for engagement with the peripheral portion of a plastic open top container, comprising a lid rim (2) in a position near the periphery of the lid body, which divides the lid body in a centrally located mirror (3) and an outer part (4) on the other side of the lid rim (2). Such a container lid is also known as a two-step container lid (see figure 1), as opposed to a one-step container lid (see figure 2), in which the rim (2') engages with the container rim.

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#### Background to the invention

A two-step container lid as described in the preamble of claim 1 is known from DE29910076U1. A two-step container lid may be used in situations where the container is covered with a cover foil, whereas the one-step lid may not. The reason is that the mirror of the two-step lid is at the same level as the top rim of the container and the foil. A one-step container lid cannot be used in combination with a foil at the level of the container rim, since the mirror of the one-step lid will be at a level below the level of the foil.

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problem is also solved by the provision of bridges (5). The tendency to nest is herein determined by measuring the pressure needed to compress a stack of lids, and the pressure needed is herein called the stack compression resistance (expressed in N/m<sup>2</sup>).

#### Detailed description of the invention

The container and lid according to the invention may be made by the technologies known in the art, from materials known in the art.

The lid is made by thermoforming. In thermoforming a plastic sheet softened by heat is formed either into or around a mould. This forming step may be supported by vacuum, air pressure, and material distribution may be improved by plug assistance. There are three main groups of thermoforming: vacuum forming, pressure forming and matched mould forming.

The material of the lid and container may be any material known for this use. Examples of possible materials are HDPE (high density polyethylene), LDPE (Low density polyethylene), PP (polypropylene), PBT (Polyester Terephthalate), PVC (Polyvinylchloride), OPVC (oriented PVC), PC (Polycarbonate), EVOH (Ethylenevinylalcohol) and multilayer materials of two or more of these polymers.

The shape of the container lid may be any shape, for example round, rounded rectangular, oval or square.

The number of bridges may be easily determined by the skilled person taking into consideration the size and shape of the container lid. A large container lid will need more bridges than a small container lid.

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In another preferred embodiment the container lid comprises an uneven number of bridges (5) evenly distributed around the periphery of the lid. This improves the flexing strength of the lid, compared to the same lid with an even number of bridges distributed evenly around the periphery of the lid. Preferably the width of the bridges (5) is 3 mm or more. The width should be such that the bridge does not break when a pressure commonly used to close the container is applied. The features of the preferred embodiments described above may be applied as such or in combination with each other.

The lid and container may be used for packaging consumer goods, such as for instance foods, such as for instance margarines or spreads.

#### Description of the drawings

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- Figure 1: Cross-section of detail of two stacked one-step container lids
- Figure 2: Cross-section of detail of two stacked two-step container lids
- Figure 3: Top view of container lid according to the invention having eight bridges

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## Claims

1. Thermoformed plastic container lid comprising a substantially sheet like lid body having a depending skirt (1) extending around the full periphery of the lid body, the skirt (1) being suitable for engagement with the peripheral portion of a plastic open top container, comprising a lid rim (2) in a position near the periphery of the lid body, which divides the lid body in a centrally located mirror (3) and an outer part (4) on the other side of the lid rim (2), characterised in that the lid rim (2) comprises one or more bridges (5) connecting the mirror (3) and the outer part (4).
2. Container lid according to claim 1, wherein the one or more bridges (5) are in the same plane as the mirror (3).
3. Container lid according to claim 1 or 2, wherein the bridge is a partial bridge consisting of two bridge parts (9,10), each being an indentation of a side wall of the lid rim (2).
4. Container lid according to claim 3, wherein the indentation is formed by placing part of the side wall at a negative angle, compared to the side wall at a place where there is no bridge.
5. Container lid according any of claims 1-4, comprising four or more bridges (5).

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Fig.1.

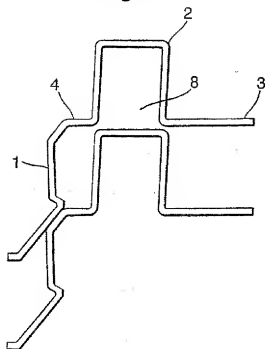
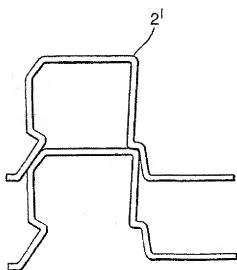


Fig.2.



SUBSTITUTE SHEET (RULE 26)

## INTERNATIONAL SEARCH REPORT

International Application No.  
T/EP2004/008904A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B65D43/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data bases consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 883 036 A (HAVEN HERM L ET AL) 13 May 1975 (1975-05-13)	1,2,5,8
A	column 2, line 23 - line 35; figures 1,2  column 3, line 62 - line 64	3,4,6,7, 9
A	US 5 012 928 A (RICHARDSON DALE S ET AL) 7 May 1991 (1991-05-07)	
	column 3, line 64 - column 4, line 30; figures 1,5,6	
A	WO 02/098759 A (PROCTER & GAMBLE) 12 December 2002 (2002-12-12)	
	page 22, line 5 - line 13; figure 10	
	-/-	

☒ Further documents are cited in the continuation of box C.☒ Patent family members are listed in annex.

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\*Z\* document member of the same patent family

Date of the actual completion of the international search

30 November 2004

Date of mailing of the international search report

09/12/2004

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International Application No.

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